

REMARKS

Applicants have uncovered CA 962283, submitted concurrently herewith as an IDS, and in view thereof have decided to amend their claims to be directed to their method invention in which deuteration is carried out of a norborneol or of a norbornanone with heavy water in the presence of palladium catalyst under an atmosphere of light hydrogen gas. The norbornanone is then reduced to a norborneol. These processes are described in the paragraph bridging pages 6 – 7 of the specification. Referential Example No. 3 illustrates the deuteration of norborneol; Referential Example Nos. 1 and 2 illustrate the two step process beginning with norbornanone. See pages 22 – 23 of the specification. Entry is respectfully requested.

The present invention provides distinct benefits in comparison with the methods of CA '283. According to the present invention, deuterated norborneol is obtained via one or two steps carried out under mild conditions, and providing a high yield without the need for the repetitive procedure of CA '283, as discussed below.

CA '283 is primarily directed to methods for producing compounds such as norbornyl – d11 bromide. At page 3, lines 14 – 16, the reference states that the deuterated acyclic or alicyclic bromides can be converted by alcoholysis to their corresponding alcohols.

CA '283, in order to produce deuterated norborneol, requires the production of deuterated norbornyl bromide, which is a complicated procedure, and probably providing a decreased yield in comparison with the procedure of Applicants' claims. In fact, at page 2, lines 4 – 6, CA '283 states that if the product is not initially fully deuterated, the process of exchange needs to be repeated 2 or more times. See Example 6 of the reference where the exchange was repeated 3 times, providing the target compound with 97.8% deuteration in a yield of 51% (Table I at page

5 of CA '283). The need for repetitive processing in CA '283 is complicated and leads to decrease in yield, but is required for a high deuteration content.

Furthermore, the process of CA '283 employs DBr as a reactant and therefore also involves the preparation of deuterated bromide. In other words, following the procedure of Example 8 of the reference, but using non-deuterated norborneol as a starting material, deuterated norborneol may be prepared by reacting non-deuterated norborneol with DBr in heavy water to prepare deuterated norbornyl bromide and then hydroxylating the deuterated norbornyl bromide. This method, similar to using norbornaone as the starting material (non-deuterated norbornanone is reacted with DBr in heavy water to prepare deuterated norbornyl bromide which is the hydroxylated), is complicated and probably provides low yield. According to the method of the Canadian reference, in order to obtain the deuterated bromide having a high deuteration percentage, the exchange process is repeated plural times, and as a result, yield is decreased.

CA '283 does not teach or suggest the method of the present claims, which method does not involve the step of preparing deuterated bromide. The reference could not possibly lead the skilled artisan to the present simplified process using mild reaction conditions. The effects of the present invention are totally unexpected from the art of CA '283.

Applicant submits that CA '283 is the closest prior art to the present claims. The references of record do not relate to the processes of claims 4 and 10, nor to the process parameters of product-by-process claim 1.

In the outstanding Office Action, in paragraph 3 thereof, claims 5 – 8 are rejected under 35 U.S.C. 103(a) over Sakunaga et al. This rejection is rendered moot in view of the cancellation of claims 5 – 8.

In paragraph 4 of the Office Action, claims 1 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayahsi et al in view of Koike. Neither reference relates to the deuteration procedure of claims 4 and 9, and as part of claim 1. In this regard, Applicants note the Examiner's comments in the paragraph bridging pages 6 – 7 of the Office Action. The claims have been amended to recite the specific deuteration process noted.

Reconsideration and withdrawal of the rejections set forth in the last Office Action are respectfully requested.

In view of the above, reconsideration and allowance are now believed to be in order, and are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the listed telephone number.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Brett S. Sylvester/

Brett S. Sylvester
Registration No. 32,765

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: May 7, 2008